Summary of **Operations and Maintenance** White Paper

Stormwater Management Program Effectiveness Literature Review

Prepared by Carla Milesi, Cardno TEC, Inc.

Ranked Questions #5

Do catch basins on arterial streets require more frequent cleaning vs. non-arterial streets?

Summary of literature review:

Literature did not specifically look at arterial versus non-arterial streets, but did indicate more heavily traveled roads such as commercial streets have higher sediment accumulation rates than lesser traveled roads such as residential streets.

Summary of recommended effectiveness studies:

None

Can land use or road size/type be used to set an optimal frequency for inspection and cleaning catch basins?

Summary of literature review:

Land use and road size is one of several factors, along with weather, topography, and catch basin sump size, affecting how frequently catch basins need to be cleaned. Optimal frequency for inspection and cleaning of catch basins cannot be determined based on land use or road size/type alone.

Summary of recommended effectiveness studies:

None

Does the land use surrounding a catch basin influence the rate of sediment accumulation in catch basins?

Summary of literature review:

Land use surrounding a catch basin does influence the rate of sediment accumulation in catch basins, with industrial areas having the highest accumulation rates followed by commercial areas and residential areas.

Summary of recommended effectiveness studies:

Review maintenance notes or monitor the catch basins to calculate sediment accumulation rates. Assess feasibility and cost effectiveness of retrofitting catch basins requiring frequent cleaning to include a larger sump.

Can catch basin maintenance frequency be determined by land use surrounding the catch basin?

Summary of literature review:

Land use is one factor, but shouldn't be the sole factor, in determining maintenance frequency of catch basins. Other factors include weather, topography, particle size, erodibility of soils, whether the streets have curbs, catch basin sump size, surrounding construction activities, and whether the catch basin is on a snow route.

Summary of recommended effectiveness studies:

Review maintenance notes or monitor the catch basins to determine how quickly they reach 40 to 50 percent of their capacity. Assess cost effectiveness and feasibility of a maintenance schedule that allows for catch basins to be cleaned out before reaching this depth.